

INKJET MFPs

INTRODUCTION

Single-function inkjet printers might be a dying breed, but the quality and variety of multifunction peripherals (MFPs) has been growing by the month. This isn't surprising, as for only slightly more than the price of a single-function device you can get an MFP that scans, copies, and prints documents and photos. Most have PictBridge or memory card support for printing photos directly from digital cameras, and some can print on CDs or send faxes. While MFPs may once have been expensive and over-complicated, many now cost less than a single-function inkjet and can produce outstanding results.

This month we've tested nine of the latest MFPs from a variety of manufacturers and at a range of prices. Whether you want to equip your home office, produce colour newsletters and brochures or simply print your holiday snaps, read on to find the best MFP for your needs.

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ONE FOR ALL



Today's multifunction peripherals offer the convenience of a combined printer, scanner and copier without compromising on quality. We test nine amazing all-in-ones

Choosing an... Inkjet MFP

Inkjet multifunction peripherals (MFPs), also known as multifunction printers or all-in-ones, have become the most popular choice for home printing. They combine the functions of an inkjet printer with an integrated scanner, and most have a range of memory card slots. Some MFPs can even send faxes. Which MFP you choose depends largely on what you will use it for.

TEXT AND GRAPHICS

While all nine MFPs can print documents and photos, scan and make mono and colour copies, not all are equally fit for every task. If you're buying an MFP for a home office, your priorities are likely to be print and copy speed, and you may want an integrated fax machine. High-quality photo printing is unlikely to be as important. Three of the MFPs in this month's Labs can send faxes, and a couple of others can produce quality prints at high speed and low cost.

All three fax MFPs have an automatic document feeder (ADF), which takes between 10 and 35 pages. This is vital for sending multi-page faxes, and makes the task of copying large documents easier. A duplexer is also helpful if you want to save paper or create professional-looking double-sided leaflets, although only one of the MFPs in the Labs has one as standard.

The most expensive MFP in the group is designed for creative projects that need high-end photo printing and scanning, but you can buy one with great all-round performance for under £80. Photo print cartridges are available for some of the devices, but only Epson's Stylus Photo RX685 comes with six separate colour cartridges as standard. Canon's PIXMA MP610 has both a pigment black cartridge for text and a dye-based black for photos. Printers that have only a pigment black and dye-based cyan, magenta and yellow cartridges print photos with a black made by mixing the three colours.

Whatever you print, running costs will be a key factor. Many manufacturers produce high-yield versions of their ink cartridges, which are usually much better value. We've calculated the cost of printing mono and colour pages by dividing the cost of the most economical cartridges available by the number of pages the manufacturer says they'll print. The results are in our table and benchmarks on pages 106 and 107. Cartridges can run down quickly, so it's worth picking up an extra set when you buy your printer.

MULTIFOCAL PERIPHERAL

All the MFPs in the group have scanners that can produce reasonable results from a 300dpi document



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scan. If you plan to do something more intensive than simple faxing, copying and document archiving, you'll need a high-resolution scanner with good optical quality. Scanner resolution is measured in dots per inch (dpi), and the higher your scan resolution, the more detail you can capture from a small area. However, this level of detail is of no use if the scanner can't focus accurately. We've tested all the scanners in the group to let you know which can produce the sharpest scans and which can't cope with more than the most basic imaging.

High-resolution scanning takes longer and requires more disk space than lower-quality imaging. All the scanners in the group produced scans fairly quickly at resolutions of less than 1,200dpi, although Lexmark's X6570 took a minute to complete our 600dpi photo scan. At 1,200dpi, the results were more varied. Brother's DCP-135C performed a 1,200dpi scan in just 19 seconds, but the quality was indistinguishable from that of scans it made at lower resolutions. None of the scanners in the group has a backlight that allows them to scan negatives and slides, so if you need to do that, you'll have to invest in a dedicated scanner.

MAKING THE CONNECTION

The only MFP that comes with a USB cable in the box is Lexmark's X6570, which requires it to set up wireless networking. For the others, you'll

The small print Photo and text quality compared

The ability to make photocopies in your own home at the press of a button is a useful, if often overlooked, feature of MFPs. However, copy quality can be extremely poor, even from printers that perform reasonably well at normal scanning and printing tasks.



▲ Some devices, such as Canon's PIXMA MP520 (left) produce clear, sharp mono copies, while Brother's MFC-465CN makes copies that look dark and murky

need a USB A-B cable before you can connect the device to your PC, although Brother's MFC-465CN can also print over a network.

Even when they're not connected to a PC, all the MFPs in the group can make photocopies and print photos directly from a digital camera that supports the common PictBridge USB standard. Some have even more standalone functions. All the MFPs with memory card readers can print images directly from the cards

they support, and both the Brother printers and HP's C5280 can scan directly to USB flash drives or supported memory cards.

To make the most of these devices, you'll need suitable software. As well as drivers, all the printers in the Labs come with simple image-editing packages, but not all of them come with optical character recognition (OCR) software, which converts scanned documents into text files that you can edit in a word processor.



BROTHER DCP-135C

★★★★

£40 inc VAT

From www.printerland.co.uk

Brother is best known for its business printers, and this inexpensive MFP's features are well suited to home-office users. It was fairly easy to set up once we'd extracted the four individual ink cartridges from their packaging. Once these were installed, it took about four minutes to charge and clean the print heads.

Draft print quality was poor, with pale text and broken lettering. We got much better results at normal quality, but print speeds were slow. Even printing a single page took just over half a minute. Text was solid and well formed, but bold characters had smudged edges. It did well in our mixed colour print test, and at a reasonable speed. Colours were accurate with no unwanted speckling or stripes.

We were also pleased with the quality of our 10x8in photo prints on A4 photo paper, although print speeds were again very slow. Prints were clear and sharp, with accurate colours even on skin tones and pale areas. Unfortunately, we had trouble with printing borderless 6x4in pictures. Borderless printing isn't even an option at the highest print resolution of 1,200x6,000dpi, but it's available at the lower photo-quality setting. Even so, print previews failed to display our images as borderless, and our borderless 6x4in prints had a 1mm white border on the right-hand side.

The DCP-135C's scanner has one of the lowest resolutions in the group, and some of the images it produced were extremely grainy. This was particularly visible in areas where a lighter colour blended into a darker hue. Document scans looked better, with sharp letters and accurate colours. Copy speeds were average for the group, but copies were dark and grainy with fuzzy lettering.

VERDICT

The DCP-135C is very cheap for an MFP, and did well in our colour-document printing and document-scanning tests. However, it's one of the slowest printers in the group when printing text, and it's expensive to run.

SUMMARY

- ✓ Inexpensive to buy
- ✗ Expensive to run
- ✗ Slow print speeds

COLOUR INKJET MFP 6,000x1,200dpi print resolution, 25ppm mono/20ppm colour maximum speed, 600x1,200dpi scan resolution, USB Hi-Speed, PictBridge USB interfaces
PART CODE DCP135CU1
DETAILS www.brother.co.uk



HP Photosmart C5280

★★★★

£67 inc VAT

From www.laskys.com

The C5280 cost £149 when it was released in June, but HP has halved its price as part of a promotion set to last until January. As soon as you've installed the ink and powered up the printer for the first time, it aligns the print head automatically. This and other maintenance tasks are available at any time through the menu system and integrated colour screen.

There's a separate tray for photo paper, which is selected automatically when you opt to print in smaller photo sizes. Unusually for a printer that emphasises photo printing, the C5280 uses a combined three-colour cartridge, although a photo cartridge is available. Print costs are reasonable if you buy high-yield inks, but low-yield costs are expensive. We quote the high-yield costs in our graphs on page 106.

The C5280's draft print speed is the fastest here, and the print quality rivalled the normal output of some other printers. Normal-quality speeds were average, but text was well defined, and we waited only 22 seconds for a single page. Our mixed-colour document appeared slowly, but images and text were sharp and accurate. We had trouble lining up the A4 paper, though, so some prints were askew.

On photo paper, pale shades and flesh tones were accurate and vivid, but dark colours looked washed out. When copying, the C5280 took almost a minute to produce a colour copy, and yellow tones were too intense. Text on both colour and mono copies was fuzzy.

The scanner can produce high-resolution images, but scans took ages at 1,200dpi and above. Colours were accurate, but images were grainy at 100 per cent magnification and lines looked rippled in our 300dpi document scan.

VERDICT

Even at this price, the Photosmart C5280 has too many annoying flaws to be worth the money. Document printing is excellent, but it was difficult to ensure that paper was fed in straight, and the quality of images produced by the high-resolution scanner was poor overall.

SUMMARY

- ✓ Fast, high-quality prints
- ✗ Difficult to line up paper; poor colour copies
- ✗ Poor scan quality

COLOUR INKJET MFP 4,800x1,200dpi print resolution, 32ppm mono/24ppm colour maximum speed, 4,800x4,800dpi scan resolution, USB Hi-Speed, PictBridge USB interfaces
PART CODE Q8330B#BEV
DETAILS www.hp.co.uk



CANON PIXMA MP520

★★★★★

£74 inc VAT

From www.lambda-tek.com/componentshop

Canon's PIXMA MP520 comes with a separate print head, which you must install before you can put in the ink cartridges. Fortunately, it's easy to fit, and the cartridges helpfully light up when you've slotted them in correctly. The MP520 uses a pigment black cartridge for mono text printing, and three dye-based colour cartridges. A colour screen and memory card slots are hidden under panels. There are front and rear paper trays, although the printer won't load photo-size paper from the front tray.

The MP520's draft print speeds were the slowest in the group, but the quality of its draft text was as good as many of the other MFPs' normal-quality prints. It was clear, legible and well formed, with no jagged edges.

Normal-quality text looked even better, and equalled the quality we've seen from many laser printers. Letters were exceptionally sharp, with no smudges on bold characters. Printing from idle was fast, with a single page appearing in 12 seconds. We were also pleased with the quality of colour document prints, although we noticed striping on large areas of dark colour, and print speeds were only average. Our test photos were sharp and clear, with excellent contrast and depth, although flesh tones and pale greys and browns had a faint yellow tint.

The scanner produced sharp, accurate images and reproduced skin tones faithfully. Although the scanner's theoretical maximum resolution is 2,400x4,800dpi, the highest resolution in the driver's menu is 1,200x2,400dpi. You can type in higher resolutions up to the scanner's maximum, however.

VERDICT

Canon's PIXMA MP520 is very cheap to run. It produces scans and documents at a quality and speed that exceeds those of many of the more expensive MFPs here. Its affordable purchase price, low running costs and high all-round print quality make it our Best Buy.

SUMMARY

- ✓ Fast, high-quality prints
- ✓ Low running costs
- ✗ Scanner interface doesn't list top resolution

COLOUR INKJET MFP 4,800x1,200dpi print resolution, 30ppm mono/20ppm colour maximum speed, 1,200x2,400dpi scan resolution, USB Hi-Speed, PictBridge USB interfaces
PART CODE 2178B008AA
DETAILS www.canon.co.uk



EPSON Stylus DX8400

★★★★

£74 inc VAT
From www.amazon.co.uk

Epson's Stylus DX8400 is the cheapest printer with a full-colour screen in the group, and this welcome addition makes tasks such as copying easier. The printer is easy to set up, although a deeply recessed USB port made it hard to plug in the cable at first. Once you have installed the ink cartridges, the printer spends a few minutes initialising the ink system. Software installation took a surprisingly long time.

Like many Epson inkjets, the DX8400's draft print setting sacrifices readability for faster prints. Sadly, the balance is wrong here, and draft prints were virtually illegible. Characters were pale and so poorly formed that details such as the line across upper-case 'A's weren't even printed. Normal-quality prints were a great improvement, and while they weren't particularly fast to appear, the quality of the lettering was good enough for formal correspondence. Colour documents looked good and were produced quickly, with accurate colours and only slight graininess.

The DX8400 was the slowest MFP in the group for printing 6x4in photos. The colour on some prints looked dull and flat, particularly on pictures with a lot of brown and grey tones, but overall quality was good, with particularly intense reproduction of dark colours.

Epson's scanner interface is excellent, and its advanced controls were powerful and easy to use. The scanner has a maximum resolution of 1,200x2,400dpi. It produced sharp images, but colours weren't as accurate as those from Brother's cheaper DCP-135C, and 1,200dpi scans were slow. The quality of mono photocopies was good, but pale colours in our colour copy acquired a lurid yellow tone.

VERDICT

The DX8400 has fairly high print costs, particularly for colour printing. A high-capacity black cartridge is available, but the price from some retailers actually makes this poorer value. The DX8400 produces adequate prints, but its high running costs are a problem.

SUMMARY

- ✓ Fast, high-quality colour prints
- ✗ Expensive to run
- ✗ Slow photo printing

COLOUR INKJET MFP 5,760x1,440dpi print resolution, 32ppm mono/32ppm colour maximum speed, 1,200x2,400dpi scan resolution, USB Hi-Speed, PictBridge USB interfaces
PART CODE C11C690301
DETAILS www.epson.co.uk



OLIVETTI Linea Office

★★★

£100 inc VAT
From www.pccashop.co.uk

Olivetti's Linea Office is one of the larger printers on test and the cheapest device here that can send faxes. Setting the language and date was fiddly, but the drivers were easy to install. Print head alignment is automatic, and we were pleased with the sturdy build quality. It's one of only two printers in the group without a memory card reader, though.

The Linea's draft and normal print speeds were among the slowest in the group, and it took the longest to print a single page at normal quality. However, draft print quality was excellent, if not quite as sharp as that of Canon's PIXMA MP520. Normal-quality prints looked good, with dark, well-defined text. Colour documents had sharp text, although there was speckling on large blocks of colour. This effect was more visible on colour copies, while mono copies were banded and patchy.

Our photo prints had accurate colours, and dark areas looked sharp, but lighter areas of colour were grainy and striped. The printer had trouble producing borderless 6x4in prints. When we chose borderless photo printing, the preview didn't reflect this and our prints had a white line along the top and left-hand side.

Text from our low-resolution document scans was fuzzy, while higher-resolution photo scans were very grainy. Colours were accurate, though, especially in light areas. The scanner interface is basic and closed after each scan without retaining settings or previews.

VERDICT

The Linea Office produces excellent draft prints and is the cheapest MFP with a fax here, but its slow print speeds and poor scanning and copying capabilities let it down. Its mono print costs are fairly high and, strangely, cheaper when using normal rather than high-capacity cartridges, but it's the second cheapest printer in the group per colour page. If you don't need a fax machine, Canon's PIXMA MP520 is a better all-round buy, while Lexmark's X6570 is a better choice for a fax-equipped MFP.

SUMMARY

- ✓ Inexpensive for a fax MFP
- ✗ Slow normal-quality print speeds
- ✗ Poor scan quality

COLOUR INKJET MFP 4,800x1,200dpi print resolution, 25ppm mono/25ppm colour maximum speed, 1,200x1,200dpi scan resolution, USB Hi-Speed, PictBridge USB interfaces
PART CODE B9562
DETAILS www.olivetti.co.uk



LEXMARK X6570

★★★★★

£111 inc VAT
From www.dabs.com

The X6570's helpful installation program includes automatic print head alignment. This is the only printer in the group with built-in support for wireless networking. You have to use the included USB lead to set it up, but you can unplug it once it's configured – or use a normal cabled USB connection to print.

Text print speeds were very fast, both at draft and normal quality. Draft prints were easy to read, but some letters were broken. The X6570 was one of the fastest MFPs in our 50-page correspondence-quality print test, and was also quick to print a single page. Lettering was sharp and solid, although there was some smudging around bold characters. Colour documents took longer to print, but the results had sharp text and no stripes or speckling. Photo prints had a purple tint that made dark shading seem dull and gave brighter colour an unrealistic oversaturated appearance.

The scanner driver wasn't available over our wireless network, so we had to plug in a USB lead. The interface has minimal options, with few of the fine colour controls that users of Epson and Canon scanners will be familiar with. We were annoyed to find that the scanner controls closed after each scan without retaining settings or previews. However, the X6570 performed well in our basic document- and photo-scanning tests, producing excellent results even at low resolutions. Scanned text was sharp and easy to read, while colours were exceptionally accurate. Colour copies were detailed and free from streaks, although mono copies were stripy. Documents could be hard to align in the 25-page automatic document feeder, though, so the edges of some pages were cut off in copies and faxes.

VERDICT

Lexmark's X6570 is relatively economical to run if you buy high-yield ink cartridges. If you need a home office MFP that combines an integrated fax with good document scanning and print quality, it's a good choice.

SUMMARY

- ✓ Inexpensive for a fax MFP
- ✓ Fast, high-quality prints
- ✗ Poor scanner interface; no wireless scanning

COLOUR INKJET MFP 4,800x1,200dpi print resolution, 28ppm mono/24ppm colour maximum speed, 600x1,200dpi scan resolution, USB Hi-Speed, PictBridge USB, 802.11g wireless interfaces
PART CODE 0016Y0702
DETAILS www.lexmark.co.uk



BROTHER MFC-465CN

★★★★

£112 inc VAT

From www.ameiva.co.uk

The sturdy MFC-465CN has a fax, automatic document feeder and both USB Hi-Speed and 10/100 Ethernet ports. It was easy to set up, although it beeped annoyingly with every keypress. Fortunately, this was easy to switch off in the setup menu using its colour screen.

Draft print speeds were below average, and draft text was very pale. The 'fast normal' mode produced slightly better results, but still took nine minutes and 33 seconds to print a 50-page document. Correspondence-quality printing was slow, and we had to wait almost half a minute for the first page. Text documents looked good, although the edges of bold characters were faintly smudged. The black text in our mixed-colour prints was sharp and the colours were accurate, but solid areas of colour were speckled and inconsistent.

Photos were painfully slow to print, and there were specks and imperfections in areas of dark colour. Mid-range colours and skin tones looked faded, and while extremely dark and very light tones were accurate, grey and brown mid-range tones were indistinct. Like Brother's cheaper DCP-135C, this MFP couldn't print 6x4in photos without a thin white border, even with borderless printing enabled.

The scanner software is basic, but it let us perform multiple scans per session by default. It successfully auto-cropped A4 previews but couldn't do this for smaller sizes, so we had to define the scan area manually for photographs. Software scanner control was available only when connected to the device by USB rather than over the network. Scanned text was hard to read at 150dpi but sharp at 300dpi.

VERDICT

This is the only wired network printer in this Labs and, with its built-in fax, would suit a small or home office. Its main failing is its slow correspondence-quality document printing. It is also slow in draft mode, and draft quality is mediocre. Lexmark's X6570 has a fax and wireless networking, and is a better office MFP.

SUMMARY

- ✓ Inexpensive for a fax MFP; Ethernet interface
- ✓ Fairly inexpensive to run
- ✗ Slow overall print speeds

COLOUR INKJET MFP 6,000x1,200dpi print resolution, 30ppm mono/25ppm colour maximum speed, 600x1,200dpi scan resolution, USB Hi-Speed, PictBridge USB, 10/100 Ethernet interfaces
PART CODE MFC465CNU1
DETAILS www.brother.co.uk



CANON PIXMA MP610

★★★★

£114 inc VAT

From www.shop.bt.com

Canon's PIXMA MP610 is far from compact, but this large MFP contains five ink cartridges, an automatic duplexer and two paper feeds, including a front tray cassette that can handle various photo paper sizes as well as A4. The ink cartridges include both pigment and dye-based black. A colour screen is hidden under a panel on the scanner lid, and its controls include an MP3 player-style control wheel for navigating the well-designed menu system.

Draft prints had no broken or jagged letters, and while draft duplex prints were paler, they were still readable. Normal correspondence-quality documents printed incredibly quickly. It took under six and a half minutes to print 50 pages, and text was as sharp as anything a laser printer could produce. Colour document prints were slower but looked excellent, with deep colours, sharp text and no trace of any printing errors, even on large blocks of colour. High-contrast and brightly coloured photo prints were particularly accurate, as were skin tones, but greys and browns had a yellow tinge and our photo of a clear blue sky looked grainy.

Although the scanner has a maximum optical resolution of 4,800x9,600dpi, the TWAIN driver lists resolutions up to just 1,200x2,400dpi. However, you can enter higher resolutions manually. Scanned photos were sharp and in focus, and even low-resolution text scans were clear. Scan and copy times were quick, and copies were clear, although areas of dark colour showed slight striping.

VERDICT

Canon's MP610 prints better colour documents than the MP520, but while the MP610 has an additional black photo cartridge, the cheaper MFP produced better photos. The MP610 is the only device here with a built-in duplexer, which is valuable if you want to create two-sided documents easily. Print costs are the same as those of the MP520, and the MP610 is £40 more expensive to buy, so it's worth the extra money only if you really need a duplexer.

SUMMARY

- ✓ Fast, high-quality prints
- ✓ Low running costs
- ✗ Scanner interface doesn't list top resolution

COLOUR INKJET MFP 9,600x2,400dpi print resolution, 31ppm mono/24ppm colour maximum speed, 4,800x9,600dpi scan resolution, USB Hi-Speed, PictBridge USB, IrDA infra-red interfaces
PART CODE 2180B008AA
DETAILS www.canon.co.uk



EPSON Stylus Photo RX685

★★★★

£170 inc VAT

From www.laskys.com

Epson's Stylus Photo RX685 is the largest printer in the group, so you'll need lots of space for it. It's also the heaviest printer in the group at 12kg. Fortunately, the output tray doesn't take up much additional space when extended, and stops even fast prints falling on the floor. Bluetooth printing and automatic duplexer units are available as optional extras.

Draft print speeds were fast, and the prints, though pale, weren't as bad as those from many cheaper Epson printers. Normal print speeds were fairly quick, and the resulting text was clear. The RX685's colour document printing was the fastest in the group. We had to perform a manual print head alignment before our colour prints were free of unwanted lines. Once we'd done so, the print quality was good, despite a few white specks in large blocks of solid colour.

The RX685 is the only printer in the group with light cyan and light magenta cartridges, as well as normal cyan and magenta. These make for more precise colours and shading, especially on photos. Photo prints were excellent, with perfectly smooth shading, dark blacks, bright whites and superb contrast. While all other colours appeared normal, red shades were oversaturated, making some skin tones look flushed. Fortunately, we corrected this by turning off ICM colour adjustment.

The scanner uses Epson's excellent scanner interface, which was both powerful and easy to use. Photo scans were precise, and colour reproduction was consistent, if not perfect. Low-resolution scans were quick and readable.

VERDICT

It's a shame that the RX685's default photo settings produced oversaturated reds, as otherwise this MFP produced the best photos in the group. Its normal-quality text and mixed-colour printing is also impressive, and scans are accurate. It's an impressive printer, but is very expensive to buy. Canon's PIXMA MP520 is better value overall.

SUMMARY

- ✓ Fast, high-quality prints
- ✓ Excellent photo printing
- ✗ Expensive to buy

COLOUR INKJET MFP 5,760x1,440dpi print resolution, 40ppm mono/40ppm colour maximum speed, 1,200x2,400dpi scan resolution, USB Hi-Speed, PictBridge USB interfaces
PART CODE C11C686301
DETAILS www.epson.co.uk

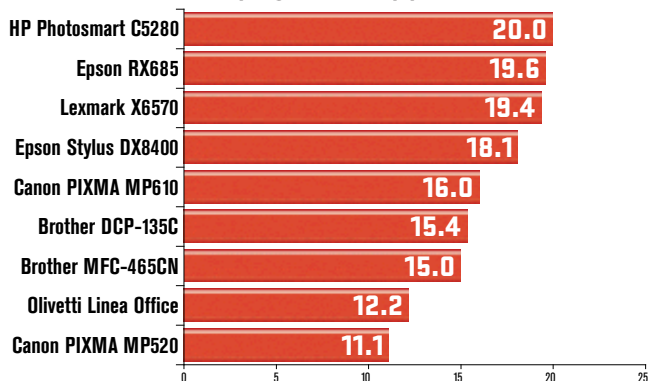
BENCHMARKS

Bigger is better

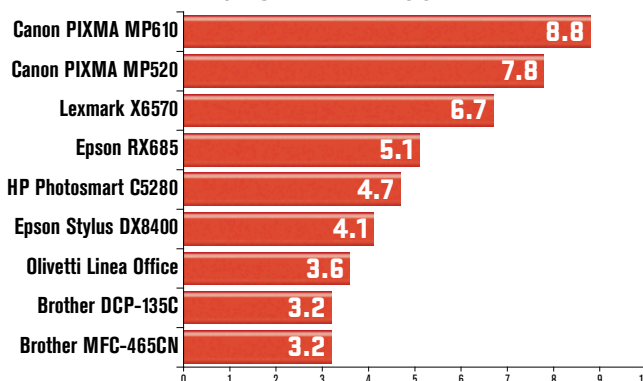
Smaller is better

Print speed

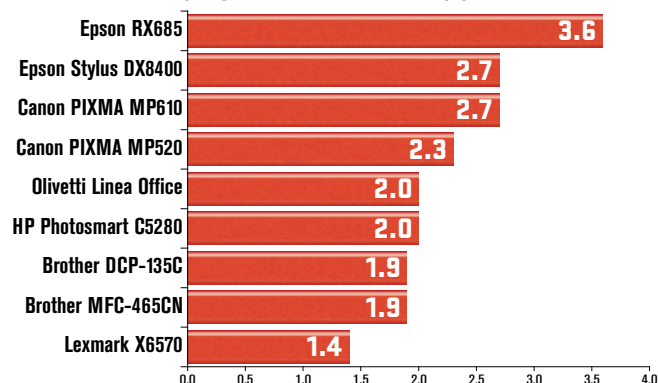
50-page draft (ppm)



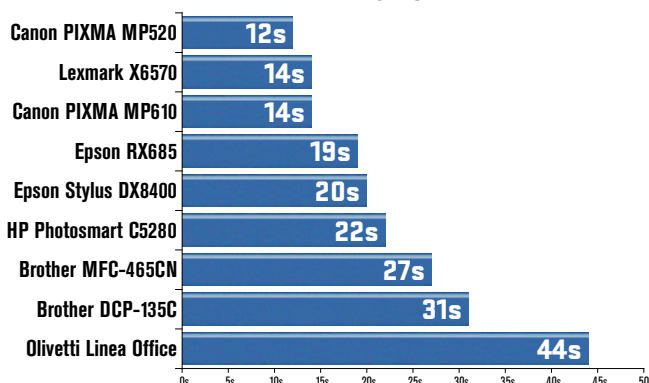
50-page normal (ppm)



25-page mixed colour (ppm)

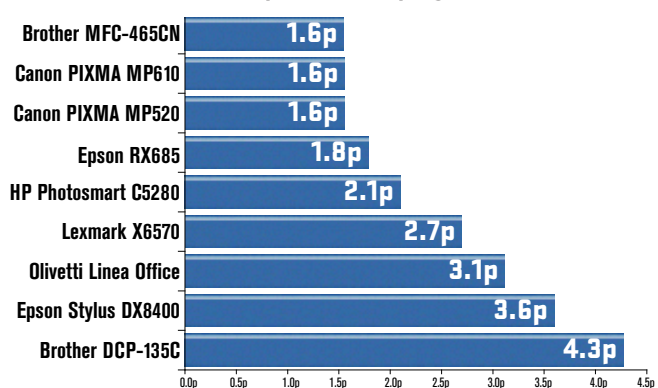


Time to first page

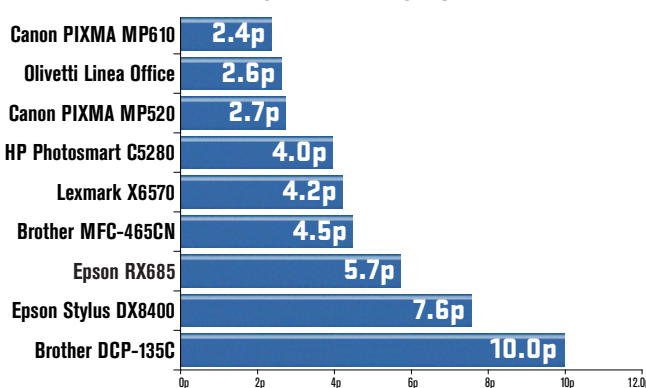


Print cost

Price per mono page



Price per colour page



How we test Inkjet MFPs

PRINT SPEED

We time how long it takes each device to print a single page at normal quality, a 50-page document at draft quality, 50 copies of a mono letter at correspondence quality and 25 pages of mixed-colour text and images. The mono letter and mixed-colour tests are carried out at the printer's default quality settings. We also perform timed prints of two 10x8in and six 6x4in photos at maximum print quality.

PRINT COSTS

We use the manufacturers' page yield figures to work out separate print costs per page for mono and colour documents. Most manufacturers calculate their printers' page yields using ISO/IEC 24711 standard test pages. We divide the cost of each cartridge (including VAT) by the number of pages it can produce. In the case of printers that take several colour cartridges, we add up all their costs to arrive at our final colour

print cost. However, our colour print cost calculations do not include black ink.

SCAN SPEED

As shown in the Labs table, we test scan speeds at various resolutions, including 150dpi and 300dpi A4 document scans and 600dpi and (where available) 1,200dpi 6x4in photo scans. We test scan quality by scanning a Q60 colour target test card and examining it for accurate colour and detail.

BEST BUY									
MANUFACTURER	BROTHER	HP	CANON	EPSON	OLIVETTI	LEXMARK	BROTHER	CANON	EPSON
MODEL	DCP-135C	Photosmart C5280	PIXMA MP520	Stylus DX8400	Linea Office	X6570	MFC-465CN	PIXMA MP610	Stylus Photo RX685
Rating	★★★★	★★★★	★★★★★	★★★★	★★	★★★★	★★★★	★★★★	★★★★
Quoted speed, mono/colour	25ppm/20ppm	32ppm/24ppm	30ppm/20ppm	32ppm/32ppm	25ppm/25ppm	28ppm/24ppm	30ppm/25ppm	31ppm/24ppm	40ppm/40ppm
TESTED PRINT SPEEDS									
50-page draft-quality text document	3m 15s (15.4ppm)	2m 30s (20.0ppm)	4m 30s (11.1ppm)	2m 46s (18.1ppm)	4m 6s (12.2ppm)	2m 35s (19.4ppm)	3m 20s (15.0ppm)	3m 8s (16.0ppm)	2m 33s (19.6ppm)
Normal quality – time to first page	31s	22s	12s	20s	44s	14s	27s	14s	19s
50-page normal-quality text document	15m 34s (3.2ppm)	10m 45s (4.7ppm)	6m 24s (7.8ppm)	12m 7s (4.1ppm)	14m 2s (3.6ppm)	7m 31s (6.7ppm)	15m 49s (3.2ppm)	5m 41s (8.8ppm)	9m 28s (5.3ppm)
25 mixed-colour pages	12m 25s (1.9ppm)	12m 3s (2.0ppm)	10m 22s (2.3ppm)	8m 47s (2.7ppm)	11m 43s (2.0ppm)	16m 39s (1.4ppm)	12m 40s (1.9ppm)	8m 55s (2.7ppm)	6m 41s (3.6ppm)
Two 10x8in photos	19m 56s	11m 30s	4m 43s	12m 19s	8m 57s	6m 22s	18m 36s	3m 8s	7m 12s
Six 6x4in photos	21m 7s	7m 25s	7m 33s	22m 6s	13m 0s	9m 23s	26m 45s	5m 9s	11m 1s
TESTED SCAN SPEEDS									
Full scan area preview	17s	7s	5s	9s	13s	9s	25s	6s	23s
A4 document at 150dpi/300dpi	17s/29s	13s/21s	12s/21s	19s/27s	14s/14s	23s/37s	16s/30s	6s/10s	13s/24s
6x4in print at 600dpi/1,200dpi	20s/19s	44s/3m 0s	22s/1m 37s	34s/2m 7s	18s/55s	1m 0s/N/A	23s/40s	13s/26s	28s/1m 37s
TESTED COPY SPEEDS									
Single A4 page, mono, default quality	35s	27s	17s	24s	30s	20s	35s	10s	23s
Single A4 page, colour, default quality	44s	52s	32s	31s	47s	1m 15s	44s	30s	24s
10 A4 pages (many-to-many), mono, default quality	N/A	N/A	N/A	N/A	6m 1s	3m 39s	4m 19s	N/A	N/A
PRINT AND SCAN QUALITY									
Maximum resolution	6,000x1,200dpi	4,800x1,200dpi	4,800x1,200dpi	5,760x1,440dpi	4,800x1,200dpi	4,800x1,200dpi	6,000x1,200dpi	9,600x2,400dpi	5,760x1,440dpi
Number of colours (cartridges)	4 (4)	4 (2)	4 (4)	4 (4)	4 (2)	4 (2)	4 (4)	4 (5)	6 (6)
Maximum number of colours (cartridges)	4 (4)	6 (2)	4 (4)	4 (4)	6 (2)	6 (2)	4 (4)	4 (5)	6 (6)
Maximum optical scan resolution (output bit depth)	600x1,200dpi (36-bit)	4,800x4,800dpi (48-bit)	1,200x2,400dpi (48-bit)	1,200x2,400dpi (48-bit)	1,200x1,200dpi (24-bit)	600x1,200dpi (48-bit)	600x1,200dpi (36-bit)	4,800x9,600dpi (48-bit)	1,200x2,400dpi (48-bit)
PHYSICAL AND ENVIRONMENTAL									
Standard interfaces	USB Hi-Speed, PictBridge USB	USB Hi-Speed, PictBridge USB	USB Hi-Speed, PictBridge USB	USB Hi-Speed, PictBridge USB	USB Hi-Speed, PictBridge USB	USB Hi-Speed, PictBridge USB, 802.11g wireless	USB Hi-Speed, PictBridge USB, 10/100 Ethernet	USB Hi-Speed, PictBridge USB, iDA infrared	USB Hi-Speed, PictBridge USB
Optional interfaces	None	None	Bluetooth wireless (BLU-20), E40	None	None	None	None	Bluetooth wireless (BLU-20), E40	Bluetooth wireless (C12C824388), E59
Dimensions (HxWxD)	145x395x370	200x450x370	170x455x380	180x445x346	250x440x245	202x454x350	185x385x370	186x450x388	230x440x430
Weight	7.0kg	7.1kg	7.5kg	5.9kg	8.5kg	8.0kg	7.1kg	8.0kg	12.0kg
Noise	50dB(A)	70dB(A)	36.5dB(A)	41dB(A)	Not disclosed	50dB(A)	45dB(A)	33.5dB(A)	36dB(A)
Duty cycle (sheets per month)	Not disclosed	3,000	Not disclosed	Not disclosed	3,000	Not disclosed	Not disclosed	Not disclosed	Not disclosed
Power consumption while printing	20W	28.3W	17W	12W	24W	Not disclosed	33W	19W	20W
Power consumption in sleep mode	6W	3W	2W	3W	5W	Not disclosed	8W	3W	4W
PAPER HANDLING									
Maximum paper size (print)	A4	A4, custom length up to 610mm	A4/legal	A4/legal	A4	A4/legal, custom length up to 432mm	A4	A4/legal	A4/legal
Standard paper inputs (capacity)	1 (100)	1 (125)	2 (250)	1 (120)	1 (100)	1 (100)	1 (100)	2 (300)	2 (120)
Output tray capacity	50 sheets	50 sheets	250 sheets	120 sheets	50 sheets	100 sheets	50 sheets	300 sheets	120 sheets
Duplex	None	None	None	None	None	None	None	None	C12C802326
Automatic document feeder capacity	N/A	N/A	N/A	N/A	35	25	10	N/A	N/A
COPY FEATURES									
Maximum number of copies	99	50	99	99	99	99	99	99	99
Copier zoom range	25-400%	50-400%	25-400%	25-400%	25-400%	25-400%	25-400%	25-400%	25-400%
Maximum mono copy resolution	1,200x1,200dpi	1,200x1,200dpi	Not disclosed	1,200x2,400dpi	1,200x1,200dpi	1,200x1,200dpi	1,200x1,200dpi	Not disclosed	1,200x2,400dpi
Maximum colour copy resolution	600x1,200dpi	4,800x1,200dpi	2,400x4,800	1,200x2,400dpi	1,200x1,200dpi	4,800x1,200dpi	600x1,200dpi	4,800x9,600dpi	1,200x2,400dpi
FAX FEATURES									
Fax modem	N/A	N/A	N/A	N/A	33.6Kbit/s	33.6Kbit/s	14.4Kbit/s	N/A	N/A
Maximum mono fax resolution	N/A	N/A	N/A	N/A	600x600dpi	600x600dpi	150x600dpi	N/A	N/A
Maximum memory capacity (mono pages)	N/A	N/A	N/A	N/A	150	99	170	N/A	N/A
PHOTO FEATURES									
Borderless printing	A4, letter, A6, 4x6in, index card, postcard	A4, custom up to 215x610mm	A4, 20x25cm, 13x18cm, 10x18cm, 10x15cm, credit card	up to A4	up to A4	A4, 4x6in, letter, A6, hagaki card, L, 2L, A5, 5x7in, legal, 89x127mm, 10x15cm, 13x18cm, 85, 10x20cm, 4x8in	A4, letter, A6, 4x6in, index card, postcard	A4, 20x25cm, 13x18cm, 10x15cm, credit card	Up to A4
Direct (PC-less) printing	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Memory card support	USB flash drive	CompactFlash, Secure Digital, Secure Digital High Capacity, MultiMedia Card, HDMC, MMCPlus, Memory Stick/Pro/Duo, xD	CompactFlash, Secure Digital, Secure Digital High Capacity, MultiMedia Card, Memory Stick/Pro/Duo, xD	CompactFlash, Secure Digital, Secure Digital High Capacity, MultiMedia Card, Memory Stick/Pro/Duo, xD	None	USB flash drive, CompactFlash, Secure Digital, MultiMedia Card, Memory Stick/Pro, Smart Media, MicroDrive	USB flash drive, Secure Digital, MultiMedia Card, Memory Stick/Pro, xD	CompactFlash, Secure Digital, Secure Digital High Capacity, MultiMedia Card, Memory Stick/Pro/Duo, xD	CompactFlash, Secure Digital, Secure Digital High Capacity, MultiMedia Card, Memory Stick/Pro/Duo, xD
CD printing	No	Yes	No	No	No	No	No	Yes	Yes
GENERAL									
Technology	Piezo inkjet	Thermal inkjet	Thermal inkjet	Piezo inkjet	Thermal inkjet	Thermal inkjet	Piezo inkjet	Thermal inkjet	Piezo inkjet
Supplied software	Brother ControlCentre3, ScanSoft Paperport 11 SE with OCR, PageManager 7, Realusion FaceFilter Studio Software	Photosmart Essential Software, Roxio Express Labeler	MP Navigator EX, Easy-PhotoPrint EX, ScanSoft OmniPage SE, NewSoft Presto! PageManager	Epson Creativity Suite, Epson Web-To-Page, Epson Easy Photo Print, Epson Scan Assistant, Epson Attach to Email, Epson Copy Utility, ABBYY FineReader® 6.0 Sprint Plus	Olivetti Toolbox	Lexmark Productivity Studio	Brother ControlCentre3, ScanSoft Paperport 11 SE with OCR, Realusion FaceFilter Studio Software	MP Navigator EX, Easy-PhotoPrint EX, ScanSoft OmniPage SE, NewSoft Presto! PageManager	Epson Creativity Suite, Epson Web-To-Page, Epson Easy Photo Print, Epson Print CD, Epson Scan Assistant, Epson Attach to Email, Epson Copy Utility
Supported operating systems	Windows XP/Vista	Windows 2000/XP/Vista, Mac OS X 10.3.9/10.4	Windows 2000/XP/Vista	Windows 98/ME/2000/XP/XP-64/Vista, Mac OS 10.2.8 or later	Windows 2000/XP/Vista, Mac OS X 10.2 or later	Windows 2000/XP/XP-64/Vista/Vista x64, Mac OS X 10.4 or later	Windows XP/Vista	Windows 2000/XP/Vista, Mac OS X 10.2.8 to 10.4	Windows 98/ME/2000/XP/XP-64/Vista, Mac OS 10.2.8 or later
Other features	One-line mono display	2.4in colour display	2in colour display	2.2in colour display	Two-line mono display	Two-line mono display	2in colour display	2.2in colour display	2.2in colour display
Other options	Free warranty upgrade to 12 months on-site if you register within 30 days	Warranty extension to three years (UG188E), E39	None	None	None	None	Free warranty upgrade to 12 months on-site if you register within 30 days	None	None
PRICE AND WARRANTY									
Street price inc VAT	£40	£67	£74	£74	£100	£111	£112	£114	£170
Price per mono A4 page inc VAT	4.28p	2.10p	1.56p	3.60p	3.12p	2.70p	1.55p	1.56p	1.79p
Price per colour A4 page inc VAT	9.99p	3.97p	2.74p	7.56p	3.63p	4.22p	4.49p	2.73p	5.74p
Warranty duration and terms	One year RTB	One year RTB	One year RTB	One year RTB	One year on-site	One year RTB	One year RTB	One year RTB	One year RTB
Supplier	www.printerland.co.uk	www.laskys.com	www.lambda-tek.com/componentshop	www.amazon.co.uk	www.pccareshop.co.uk	www.dabs.com	www.ameiva.co.uk	www.shop.bt.com	www.laskys.com
Details	www.brother.co.uk	www.hp.co.uk	www.canon.co.uk	www.epson.co.uk	www.olivetti.co.uk	www.lexmark.co.uk	www.brother.co.uk	www.canon.co.uk	www.epson.co.uk
Part code	DCP135CU1	Q8330B#BEV	2178B008AA	C11C690301	B9562	0016Y0702	MFC465CNU1	2180B008AA	C11C686301

Labs verdict Inkjet MFPs

Your choice of multifunction peripheral will obviously depend on what you need to do with it. If you require a business-oriented device with an integrated fax, the Lexmark X6570 is an ideal choice. It works over a wireless network, has fast mono print speeds and produces sharp scans.

If high-end photo printing is a priority, Epson's Stylus Photo RX685 provides a great deal of control over its high-quality prints,

despite flawed default settings. Its scanner is also excellent, but its purchase price and running costs are too high for all but the most dedicated digital photographer.

Our favourite device in the group is Canon's PIXMA MP520, which is inexpensive to buy and has affordable running costs. Despite its low purchase price, it produced clear, sharp results in all our print and scan tests, and its print speeds were among the fastest here. It's an ideal choice



★★★★★



for almost any purpose, whether you want to print holiday snaps or invoices for your home business. It's our Best Buy MFP. **ES**